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Conference Abstract

Standardizing Citizen Science?

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Abstract

Citizen science engages members of the public in collecting and mobilizing information for research and decision-making. While citizen science is well known for supporting biodiversity research and monitoring at national and global scales, many projects also engage the public in areas including local environmental monitoring and participatory health research. Beyond data collection, volunteers increasingly participate in all stages of the scientific research process, including data analysis and project or protocol design.

The use of standards can help scientists and volunteers collect, exchange, and understand information within and beyond the initial data collection context. But the state of data standardization and interoperability in citizen science is currently limited. Not all projects wish to collect standardized data or make their data open for re-use. Further, diverse stakeholders including community members, regulatory agencies, and research scientists, may disagree about what types of information are relevant and what formats information should take Gobel et al. 2017. And while citizen science is valued as a method that can help address complex global problems, integrating a range of interdisciplinary data from diverse sources, as required by projects like Global Mosquito Alert Bowser et al. 2017, can be a formidable technical challenge.

In 2015, a consortium of individuals dedicated to understanding and addressing these challenges was formalized through the Data and Metadata Working Group of the Citizen Science Association (CSA). The Working Group is making progress on a number of challenges, including developing an evolving data and metadata standard and ontology called Public Participation in Scientific Research CORE, or PPSR_CORE Cavalier et al.

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2015. To be effective and impactful, PPSR_CORE will need to be compatible with existing standards like Darwin Core, and also develop a shared vocabulary for documenting important aspects of participation like data quality and fitness for purpose. This talk explores the social and technical challenges of standardizing citizen science, shares the efforts already underway, and encourages the TDWG community to come together and contribute to a common agenda for research and capacity building.

Keywords

Citizen science, data standards, interoperability

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